

IN THE CLAIMS:

A complete listing of all claims pending, amended and canceled is included as follows:

1. (previously presented) A method for fast locating records on a data page in a database, comprising the steps of:

(1) setting a directory structure composed of a group of record deviations at the end of a data page, in which, a record deviation is a position deviation of a record on the data page; each directory in the directory structure is called dir_slot, and each dir_slot stores the position deviation of one record; and

(2) searching for relative records in the dir_slot by adopting a locating algorithm, after locating one certain dir_slot, searching the relative group of records in order according to the record deviation stored in the dir_slot and locating the record to be searched for accuracy, and outputting the deviation of the record.

2. (original) The method for fast locating record on a data page in a database of claim 1, further comprising the following steps of:

putting the record to be searched for into a field structure, and comparing the record on the data page with the field structure.

3. (original) The method for fast locating record on a data page in a database of claim 2, which is characterized in:

first endowing two variables low and up which represent the number of dir_slot with initial values, in which, low is endowed with a value of 0, up is endowed with a value that is a total number of dir_slot on the page, then searching by adopting locating algorithm, and judging which dir_slot the record belongs to.

4. (original) The method for fast locating record on a data page in a database of claim 1, in which, said locating algorithm is dichotomizing locating algorithm.

5. (original) The method for fast locating record on a data page in a database of claim 4, in which, said dichotomizing algorithm is to take out a medial value continuously to compare with the field structure, until the value of up-low is not more than 1.

6. (previously presented) The method for fast locating record on a data page in a database of claim 3, which is characterized in:

after finding the record `dir_slot`, selecting records orderly from the `dir_slot` with the number of low to compare with the field structure, till the record is the last record of the `dir_slot` next to this record is a up record `up_rec` of the `dir_slot` with the number of up; if the record is found during this process, finishing the search on this page; if the record is not found, turning to the next page to perform the same match.

7. (original) The method for fast locating record on a data page in a database of claim 1, which is characterized in:

when the record number of `dir_slot` is full due to inserting of one record onto a data page in a database, splitting the current `dir_slot` into two ones, so as to increase a `dir_slot`.

8. (previously presented) The method for fast locating record on a data page in a database of claim 7, which is characterized in:

if the total number of records on the `dir_slot` where the record locates exceeds a maximum value after inserting the record into a chain table, moving all of the `dir_slots` behind this `dir_slot` the length of one bit `dir_slot` backward, thus, increasing adding one `dir_slot`, and dividing all the records on the `dir_slot` where this record belongs to into two parts, and attaching these two parts of records to the two `dir_slots` respectively.

9. (original) The method for fast locating record on a data page in a database of claim 1, which is characterized in:

when deleting a record, taking it out from a chain table and setting a deleting mark to it.

10. (original) The method for fast locating record on a data page in a database of claim 9, which is characterized in:

obtaining a dir_slot next to this dir_slot first, and judging the record number of the next dir_slot, if the record number exceeds a minimum value, taking out a record from the next dir_slot, and adding it to the current dir_slot; if the record number is less than or equal to the minimum value, combining these two dir_slots, and deleting the current dir_slot.

11. (previously presented) The method for fast locating record on a data page in a database of claim 2, in which, said locating algorithm is dichotomizing locating algorithm.

12. (previously presented) The method for fast locating record on a data page in a database of claim 3, in which, said locating algorithm is dichotomizing locating algorithm.

13. (previously presented) The method for fast locating record on a data page in a database of claim 5, which is characterized in:

after finding the record dir_slot, selecting records orderly from the dir_slot with the number of low to compare with the field structure, till the record is the last record of the dir_slot next to this record is a up record up_rec of the dir_slot with the number of up; if the record is found during this process, finishing the search on this page; if the record is not found, turning to the next page to perform the same match.